CLAIMS

We Claim:

1. A liquid composition of the type injected into vascular lumens to solidify and occlude said lumens comprising water and an organic polymer having a gel-sol transition temperature wherein an aqueous solution is formed at temperatures below said transition temperature and wherein a hydrogel is formed at temperatures above said transition temperature.

2. The liquid composition of Claim 1, wherein each molecule of said polymer comprises a plurality of blocks, each of which has a cloud point, and at least one hydrophilic block covalently bonded with said plurality of blocks.

3. The liquid composition of Claim 2, wherein said plurality of blocks are selected from the group consisting of N-acryloylpiperidine, N-propylmethacrylamide, N-isopropylacrylamide, N-diethylacrylamide, N-isopropylmethacrylamide, N-cyclopropylacrylamide, N-acryloylpyrrolidine, ,N-ethylmethylacrylamide, N-cyclopropylmethacrylamide, N-ethylacrylamide, propyleneoxide, alkeneoxide, vinylmethylether, and partially-acetylated vinyl alcohol.

4. The liquid composition of Claim 2, wherein said hydrophilic block is selected from the group consisting of methyl cellulose, dextran, ethyleneoxide, vinyl alcohol, N-vinyl pyrrolidone, vinylpyridine, acrylamide, methacrylamide, N-methylacrylamide, hydroxyethylmethacrylate, hydroxyethylacrylate, hydroxymethylmethacrylate, hydroxymethylacrylate, methacrylicacid, acrylic acid, vinylsulfonic acid, styrenesulfonic acid, N, N-dimethylaminoethylmethacrylate, N, N-diethylaminoethyl methacrylate, and N, N-dimethylaminopropylacrylamide,.

5. The liquid composition of Claim 1, wherein said transition temperature is between 0°C and 40°C.

6. The liquid composition of Claim 1 further comprising biologically active substances.

7. The liquid composition of Claim 6, wherein the biologically active substances are selected from the group consisting of cytokines and extracellular matrix materials.

8. The liquid composition of Claim 7, wherein the cytokines are selected from the group consisting of tumor growth factor, fibroblast growth factor, vascular endothelial growth factor and platelet-derived growth factor.

9. The liquid composition of Claim 7, wherein the extracelluar matrix materials are selected from the group consisting of collagen, gelatin, fibronectin, vitronectin, laminin, proteoglycan, and glycosaminoglycan.

10. The liquid composition of Claim 6, wherein the biologically active substances further comprise antineoplastic agents.

11. The liquid composition of Claim 1 further comprising radiopaque agents.

12. The liquid composition of Claim 11, wherein the radiopaque agents are selected from the group consisting of powdered tungsten, powdered tantalum, powdered gold, powdered platinum, barium sulfate and organoiodine compounds. .

13. The liquid composition of Claim 1 further comprising substances which alter the gel-sol transition temperature.

14. The liquid composition of Claim 1 further comprising substances which alter viscosity of the aqueous solution.

15. A method for occluding a vascular lumen comprising the step of injecting into said lumen an aqueous solution of an organic polymer having a gel-sol transition temperature wherein said aqueous solution forms a hydrogel at temperatures above said transition temperature.

16. A liquid composition of the type injected into vascular lumens to solidify and occlude said lumens comprising water and an organic polymer having a gel-sol transition temperature so that an aqueous solution is formed at temperatures below said transition temperature and so that a hydrogel is formed at temperatures above said transition temperature, wherein each molecule of said polymer comprises a plurality of blocks, each of which has a cloud point, and at least one hydrophilic block covalently bonded with said plurality of blocks.